

REMARKS

Claims 1-3 and 5-8 are pending in the present application. Claims 1-3 are allowed, and Claims 5-8 stand rejected. The Examiner is respectfully requested to reconsider and withdraw the present rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 5-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Enyedy (U.S. Pat. No. 5,938,949) in view of Hill (U.S. Pat. No. 3,061,709). These claim rejections are respectfully traversed.

Claims 5-8 have been amended to clarify that the gas control device is physically disposed within the torch head, away (or distally) from the torch handle, and thus closer to the plasma arc chamber. The closer the gas control device is to the plasma arc chamber, the more the gas pressure can be built up, and thus shorter restart times can be achieved.

Neither Enyedy nor Hill teach or suggest such a positioning of a gas control device within the torch head and distally from the torch handle, closer to the plasma arc chamber. As previously set forth, in Enyedy, the gas is controlled solely for the purpose of moving the electrode away from the nozzle during operation, and as such, does not allow gas pressure to build up local to the torch head for supply to the plasma arc chamber and reducing start times. Hill is limited to a gas valve in the handle of a welding torch and is not concerned with maintaining gas pressure local to a torch head to allow gas pressure to build up local to the torch head. Furthermore, Hill does not disclose a plasma arc torch and does not disclose a plasma arc chamber. Therefore, the valve of

Hill is not used for controlling gas flow to the plasma arc chamber. Since Hill does not disclose a plasma arc torch, a plasma arc chamber is necessarily lacking, because the arc is directly generated between the electrode and the workpiece. The nozzle N of Hill is used merely for guiding a shielding gas (see U.S. 2,685,631 mentioned in the first paragraph of Hill for description of the structure of this type of arc torch) and thus is not equivalent to the tip used in a plasma arc torch. Using a non-consumable electrode does not make the Hill torch a plasma arc torch. Because Hill is not a plasma arc torch having a plasma arc chamber and because the gas valve of Hill is used for controlling a shielding gas only, Hill provides no motivation to provide a gas control device within the torch head for the purpose of controlling a plasma gas flow to the plasma arc chamber. Accordingly, Applicants submit that Claims 5-8 cannot be obvious and respectfully request that the rejections of Claims 5 to 8 be withdrawn.

CONCLUSION

It is believed that all of the stated grounds of objection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding objections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this Response is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1216.

Respectfully submitted,

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